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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 965,377	09/27/2001	Matthew S. Gebhard	A01065	6406

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04/22/2003

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EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 04/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/965 377

Applicant(s)

Gebhard L.F.

Examiner

N. A. H.

Group Art Unit

1657

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 1/16/03
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-16 is/are pending in the application.
- ☐ Of the above claim(s) 9-16 is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 1-8 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 3 Filed 2/4/04
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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In a response of 1/16/03 to a restriction requirement of 12/17/02, applicants elected Group I claims 1-8 without traverse.

Claims 9-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no
5 allowable generic or linking claim. Election was made without traverse in Paper No. 5 of 1/16/03.

Claims examined on the merits are 1-8.

Specification

10 The disclosure is objected to because of the following informalities: the specification fails to contain headings designating different sections.

The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the
15 applicant's use.

Arrangement of the Specification

20 The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- 25 (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- (c) Statement Regarding Federally Sponsored Research or Development.
- 30 (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
 - 1. Field of the Invention.
 - 2. Description of the Related Art including information
35 disclosed under 37 CFR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.

- (i) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

5 It is suggested that the specification be amended as follows:

Page 1,

above line 3 insert --

BACKGROUND OF THE INVENTION

1. Field of the Invention

10 --.

Between lines 5 and 6 insert --

2. Description of the Related Art

--.

Page 3, between lines 18 and 19 insert --

15 SUMMARY OF THE INVENTION

--.

Page 43, between lines 3 and 4 insert --

DETAILED DESCRIPTION OF THE INVENTION

--.

20 Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C.

112:

25 The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a porous film resulting from using a particulate non-film forming polymer and latex of film forming polymer particles having diameters small enough to fit
5 through interstices of a matrix formed from the non-film forming particulate material, or using a latex containing polymer particles having a core and shell as disclosed in the specification at page 3, lines 24-29, does not reasonably provide enablement for other embodiments within the scope of the claims. The specification does not enable any
10 person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The specification fails to describe how to make a film as claimed when not produced as described in the specification as set forth above.
15 The claims and specification must be commensurate in scope.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

20 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

25 Bridging lines 2 and 3 of claim 1, "pores or channels" is confusing since it is uncertain as to the difference in structure of the film when channels are present instead of pores. Furthermore, line 1 of the claim

requires a porous film, and it is uncertain how the film is porous when having channels in place of pores. It is suggested that only pores be required, or if both pores and channels are present, require pores and channels.

5 Claim 2 is unclear how "water-borne latex dispersion polymer particles" are used to prepare the blend of claim 1. Is the latex the non-film forming material or the film forming polymer? Additionally, "water-borne latex dispersion polymer particles" is uncertain as to meaning and scope. Is the latex or the particles being required? It is
10 suggested that -- latex composition containing polymer particles dispersed in a medium composed predominantly of water -- be used instead as set forth in the specification at page 6, lines 12-17. This also applies to "water-borne latex particles" in claim 5 and "water-borne latex dispersion" in claim 7.

15 Claim 5 is unclear by not having antecedent basis for a non-film forming material having a largest dimension as required in line 3. Claim 1 does not require the non-film forming material to have a shape that can have a largest dimension.

 Bridging lines 1 and 2 of claim 7, "multi-stage polymer" is
20 uncertain as to meaning and scope. Structure of a polymer that is multi-stage and not multi-stage is unclear. Moreover, "multi-stage" appears to be directed to a method of making polymer polymers as described in the specification rather than to structure of polymer particles. It is suggested this term not be used, and the polymer particles of the latex

be claimed in terms of having a core and shell as described in the specification at page 3, lines 27-29.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the
5 basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically
disclosed or described as set forth in section 102 of this title, if the
differences between the subject matter sought to be patented and the prior art
are such that the subject matter as a whole would have been obvious at the time
10 the invention was made to a person having ordinary skill in the art to which said
subject matter pertains. Patentability shall not be negated by the manner in
which the invention was made.
This application currently names joint inventors. In considering
patentability of the claims under 35 U.S.C. 103(a), the examiner presumes
15 that the subject matter of the various claims was commonly owned at the
time any inventions covered therein were made absent any evidence to the
contrary. Applicant is advised of the obligation under 37 CFR 1.56 to
point out the inventor and invention dates of each claim that was not
commonly owned at the time a later invention was made in order for the
20 examiner to consider the applicability of 35 U.S.C. 103(c) and potential
35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Cantwell et al (0 288 203 B1).

The claims are drawn to a porous non-friable film comprising a blend
25 of a non-film forming material and a film forming polymer present in the
blend in an amount of between 5 and 35% based on total polymer volume.

Cantwell et al disclose immobilizing microorganisms by producing
polymer film (page 2, lines 49-51) by mixing a latex containing particles
formed of a hard polymer (non-film forming polymer) with a latex
30 containing particles formed of a soft film forming polymer (paragraph

bridging pages 4 and 5, and Example 1, page 6, lines 41-48). Using both hard and soft film forming polymers enables varying properties of the structure of the polymer produced and obtaining a structure having preferred optimum properties (page 4, lines 55-58). The skilled man by experimentation can determine the composition of a mixture of hard and soft polymers (page 5, lines 1-3).

When mixing latexes as disclosed by Cantwell et al to obtain a polymer film, it would have required only limited routine experimentation to determine a preferred optimum ratio of hard and soft latex polymer particles, and it would have been obvious to use other than a 50:50 mixture as shown in Table 1 of Cantwell et al. The present claims do not exclude a flocculant as may be used by Cantwell et al, and do not require a different porosity. In Example 1 of Cantwell et al, one latex has a particles of a size of 0.1 micron and the other a size of 0.4 micron. Using particles 0.08 micron rather than 0.1 micron would have been a matter of obvious choice, and within routine experimental variation.

Claim Rejections - 35 USC § 103

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantwell et al in view of Frazza et al (5,147,937) and Kowalski et al (4,791,151) .

The claims are drawn to a non-friable porous film that maintains porosity up to 160° C comprising a latex dispersion of a multi-stage polymer containing a non-film forming material having a T_g of at least 30° C, and a film forming polymer having a T_g no greater than 20° C in an amount of between 5 and 35% based on total polymer volume.

Cantwell et al is described above.

Frazza et al and Kowalski et al disclose producing polymer particles having a core and shell using film forming and non-film forming polymers using a multi-stage process.

5 It would have been obvious to prepare the polymer particles in the latexes of Cantwell et al using the multi-stage technique for its expected function as suggested by Frazza et al and Kowalski et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone
10 number is (703) 308-0520. The examiner can normally be reached on Monday-Thursday and every other Friday from about 8:30 AM to about 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, a message can be left on voice mail.

15 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn, can be reached at telephone number (703) 308-4743.

The fax phone number is (703) 872-9306 before final rejection or (703) 872-9307 after final rejection.

20 Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

25

[Handwritten signature]
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